2001 BIA/TRIBAL WATER MANAGEMENT WORKSHOP

March 5-9, 2001
Denver, Colorado

United States • Department of the Interior • Bureau of Indian Affairs
Office of Trust Responsibilities • Division of Natural Resources

Bureau of Reclamation

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Registration Form

Participant's name: _____

Title: _____

Organization name: _____

Mailing Address: _____

_____

(City) *(State)* *(Zip Code)*

Office telephone: _____
(Area Code)

E-mail address: _____

Will you be attending the half day Managers Special Session? [ ] Yes [ ] No

Or

Will you be attending the half day Ditch Riders Special Session? [ ] Yes [ ] No

We plan to print a list of participants' names, titles, office addresses, office telephone numbers, and E-mail addresses to hand out to all participants at the workshop.

Do we have permission to include this information? [ ] Yes [ ] No

Registration Deadline: January 14, 2001

Use seperate form for each nominee and send to:

Bureau of Reclamation
Reclamation Service Center
PO Box 25007
Denver, CO 80225
Attention: D-8520 - (Nuanes)

2001 BIA/TRIBAL WATER MANAGEMENT WORKSHOP

GENERAL INFORMATION

The workshop on water management is a seminar for supervisors, managers, watermasters, and others in the BIA and Tribes responsible for or associated with the operation and maintenance of water systems. It is held when field activities are generally at a minimum for the convenience of operating personnel. The workshop sponsored by the Bureau of Indian Affairs will be held in Denver, Colorado. The majority of the workshop activities will be conducted at the Holiday Inn Denver West, 14707 West Colfax Avenue, Golden, Colorado. Participants will spend a day during the week attending sessions at the Reclamation Service Center at the Denver Federal Center. The workshop will be held during the week of March 5-9, 2001. It will convene at 7:30 a.m. on Monday, March 5, 2001, and will close at 12 noon on Friday, March 9, 2001.

Registrations are due by January 14, 2001.

There is no tuition fee associated with this workshop. The 2001 BIA/Tribe Workshop itself will be sponsored by the Bureau of Indian Affairs.

All food, lodging, transportation, and other expenses will be the responsibility of the individual attending.

Workshop Sessions

Attendance at the workshop is limited to approximately 150. Each participant has the opportunity to attend 24 sessions, and each session is limited to approximately 37 participants to permit open discussions. Every effort will be made to present information which can be applied directly to the daily problems encountered in operating and maintaining water systems.

Leaders who are well qualified in their particular field will be in charge of each session. They will give a brief summary of the material to be covered, and the remaining time will be spent in discussion and exchange of information by all participants in the session. Participants attending the workshop are requested to come prepared to discuss experiences or procedures they have found to be advantageous on their respective jobs. In addition, there will be an assembly of general interest and a tour of the research laboratory at the Reclamation Service Center at the Denver Federal Center.

Lodging Accommodations

A block of rooms has been reserved at Holiday Inn Denver West, 14707 West Colfax Avenue, Golden, Colorado. Sleeping room rate for workshop participants is $69 per night plus 9.3% tax for a single (1 person/bed) or double (2 person/2 beds). The rate for participants is at the Government per diem lodging rate for Denver which is $69 per night per person. Government participants are tax exempt with Official Government Credit Card with Tax Exempt I.D..

Directions for making hotel reservations will be sent directly to each participant in January 2001 after registration forms are received at the Reclamation Service Center in Denver which is hosting the workshop. Payment for lodging accommodations will be the responsibility of the participant.

Transportation

The only transportation provided will be between the Holiday Inn Denver West and the Reclamation Service Center at the Denver Federal Center during one day of the week to attend sessions and tour Reclamation's research laboratories.

Session Notes

All participants will be provided at the workshop registration with a set of session notes covering the basic subject matter of the various sessions. Essentially, this serves as a workshop "text book". Otherwise, individuals are expected to keep their own notes on information contained in the sessions.

DESCRIPTION OF SESSIONS

Sessions are subject to change depending on the availability of instructors.

SPECIAL SESSION

Two special sessions are being included in the 2001 workshop. The first special session is directed specifically towards project managers, water district managers, members of Boards of Directors, and other with management responsibilities. The second special session is scheduled for ditch riders and others with related responsibilities to focus specifically on the issues related to this critical element of irrigation project operations. The special sessions are intended to be a forum for informal discussions among those attending the sessions. These discussions will be led by a moderator and will focus on the issues determined by the attendees.

The manager's session will be scheduled during the same time period as the sessions on Concrete Mixes and Materials, Concrete Repair and Maintenance, and Water Management. The ditch rider's session will be scheduled at a time to be announced.

Maintenance Management

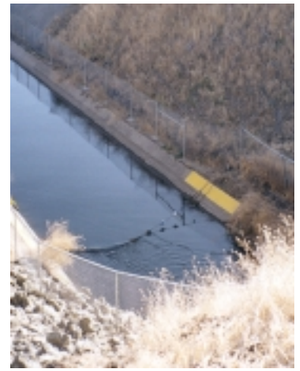
This session will discuss the need for implementing a sound and effective maintenance management program using some form of maintenance management system (automated or manual) for ensuring the reliability and maximizing the life of water system features. Identifying, scheduling, and documenting maintenance and inspection work under an annual work plan will be discussed. In addition, discussions will address deferred maintenance as a planning tool for maintenance activities. The need for a formal review program (condition assessments or life cycle costs) for evaluating the level of maintenance and performance of structures will be emphasized in view of new Federal reporting requirements for deferred maintenance.

Basic Pump, Motor, and Electrical Maintenance

While not all projects have pumping problems, the use of pumps is becoming more important and widespread yearly. The topic will cover basic pump, motor, and switchyard maintenance. The operation and maintenance problems or troubles commonly encountered with pumps and motors, the need for periodic maintenance and inspection, pump troubleshooting, and repair or replacement of parts will be discussed.

Water Related Sediment Problems

There are many types of sediment problems encountered throughout a water distribution system. This session will cover these problems. The discussion of sediment problems will include some fundamental relationships of stream channel hydraulics and sediment transport. Major variables that will be covered in evaluating the problem are sizes of sediment from clays to gravels and cobbles, changes in flow, and effect of man-made structures. Operation and maintenance problems involving sediment to be discussed are (a) diversion structures and canal headworks, (b) canal and distribution systems, (c) pumping plants, (d) stability of natural channels to convey water supply and return flows, and (e) miscellaneous river channel or sediment problems.



Hazardous Materials Management

This session will provide basic information on the management of hazardous waste issues confronted during the operation and maintenance of water systems and facilities. Discussions will include: (a) generator registration, identification, accumulation, disposal, and tracking of hazardous waste, (b) underground storage tank registration, monitoring, testing, upgrading, and replacement, (c) PCB management, (d) asbestos identification, labeling, removal, and disposal, (e) Title III Community Right-to-Know reporting, (f) hazard communication - employee training requirements, (g) waste minimization responsibilities, (h) Spill Prevention Control and Countermeasure Plan requirements, and (i) land inventories for hazardous waste sites, midnight dumping, and reporting of hazardous materials releases on Reclamation lands.

Corrosion Mitigation

The fundamental principles of corrosion and corrosion mitigation will be introduced and discussed. Common methods of corrosion mitigation will be described, including cathodic protection. Successful field installations and individual problems will be discussed. Also, the basics behind the specified methods for surface preparation, and preparing, applying, curing, and inspecting coatings will be presented. Selection of coatings will be briefly discussed.

Water Systems Operation and Maintenance

The goal of this session will be to provide participants with an outline or structure for conducting a system analysis to assist in water management and facility operation and maintenance efforts. It is intended for participants to leave the session with mental tools for evaluating system equipment and water management practices, including structural and non-structural components from water measurements and accounting to protective coatings. As part of the learning process, participants will begin assessing their system conditions to evaluate the near and long-term effects and needs for improved operation and maintenance. Two other topics will be briefly discussed during this session: selection and application of coatings and water quality.

Vegetation Management and Pest Control, Part 1

This session will focus on identification, biology, problems caused by undesirable vegetation (aquatic, riparian, terrestrial), and other pests (zebra mussel, etc.) on water facilities and systems.

Vegetation Management and Pest Control, Part 2

This session will introduce and provide an overview of the Integrated Pest Management (IPM) concept. IPM is a process that may use various strategies including physical, cultural, biological, or chemical prior to or when levels of pests become intolerable. The presentation will focus on implementation of IPM practices for various rangeland, riparian, and aquatic sites.

Drainage of Irrigated Lands

Nearly every irrigation system operator sooner or later encounters the problem of seeped lands. This session is devoted to this topic in an effort to acquaint the system operators with some of the basic principles involved. Symptoms of the problem will be discussed, including rising ground water, waterlogging, salinization, soil deterioration, crop response, and natural indicators. These symptoms may result from canal and lateral losses, too much irrigation, not enough irrigation, quality of water, inadequate natural drainage, piezometric pressures, or subsurface stratigraphic situations. A drainage engineer can collect the soils agronomic and geologic design data needed to affect a cure. This includes outlets, layout of the system, spacing and depth of drains, open ditch or buried pipe drains, materials, gravel envelopes and filters, manholes, and capacity (discharge) of pumped-drainage wells. Maintenance of monitoring well networks, pipe drain systems, and production/drainage wells will be key topics. Laws and regulations dealing with environmental concerns have become a factor in drain design construction and operation and maintenance. Status of wetlands as defined in the Food Security Act of 1985 (Swampbuster) will be discussed. Quality of drainage water with respect to trace elements and its impact on irrigation districts will also be covered. Loss of participation in farm programs can result if these are not properly addressed.

Water Management and Conservation Planning

This session will focus on issues and techniques related to water management and conservation planning by districts and other water resource entities. Reclamation's Water Conservation Field Services Program will be highlighted, as well as recommendations on how to approach the process of evaluating water management problems and opportunities, establishing water management goals, and evaluating the applicability and cost effectiveness of particular water conservation measures.

Canal System Operation, Control, and Automation

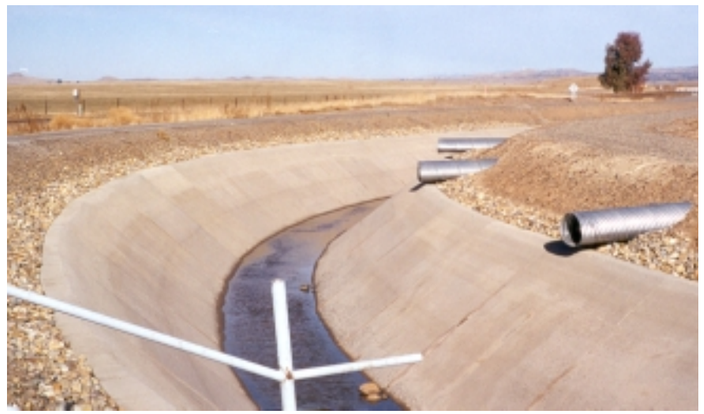
A variety of control methods are available for upgrading irrigation canals to improve service to water users, increase operating efficiency, and reduce costs. These methods range from local control of individual gate structures to supervisory monitoring and control of all project structures from a central location with computer equipment. Canal system operating objectives, control schemes, and automatic control equipment will be discussed.

Water Measurement, Part 1

In a shifting national environment where water users are being held more and more accountable for their use of the nation's water resources, methods for acquiring accurate water measurement data will be stressed. A discussion of basic theory and field conditions tending to reduce measurement accuracy will be held, including the effect of adverse conditions, incorrect use of measurement devices, effect of nonmaintenance and poor workmanship, effect of submergence or flooding, and others. Material will be presented to aid in correction of problem measurement situations and the proper selection of flumes and weirs for particular situations. The importance of accurate recordkeeping will also be stressed.

Water Measurement, Part 2

Laboratory demonstrations of common water measurement devices will be used to further illustrate proper techniques and procedures for accurately measuring water flow. The emphasis will be on devices and techniques which can be used in the field.



Planning the O&M and Management of Water Systems

This session will provide information and discussions regarding the development of strategies and preparation of plans for proper and effective operation, maintenance, and management of water systems. World Bank Technical Paper No. 389, "Planning the Management, Operation, and Maintenance of Irrigation and Drainage Systems," will be the primary guide used for the discussions in this session. The need for and preparation and use of manuals necessary for managers and staffs to perform needed activities in a timely manner will be discussed. The issues that should be addressed in preparing and using operation and maintenance manuals for water systems and the available materials and papers which will assist in the formulation and usage of plans and manuals for operation, maintenance, and management will also be discussed.

Security and Safety Considerations

Two important topics will be covered in this session. With the increased emphasis on security in today's world, this session will include a discussion of personal and facility security issues affecting O&M personnel. "Safety first, every job, every time!" is Reclamation's safety motto and this session will also include information on confined space entry, lockout/tagout procedures, personal and equipment safety, etc.

Environmental Considerations

In today's world, environmental issues are becoming more and more important. This session will provide information on how environmental issues can affect operation and maintenance of water systems. What is an "endangered species"? What are NEPA (National Environmental Policy Act), Categorical Exclusions, and Environmental Assessments? What are 404 Permits and when are they needed? When is an archaeological clearance needed? This session will answer those questions, plus provide appropriate examples of environmental considerations which can affect water systems management.

Seepage Control - Geomembranes, Waterstop, and Sealants

Canals, reservoirs, and other hydraulic structures are lined with earth, concrete, and geomembranes to reduce seepage. Lower cost canal and reservoir linings, as well as other means of reducing seepage from hydraulic structures, will be presented. Various types of geomembranes will be emphasized. Installation, maintenance, relative costs, and advantages and disadvantages of each type will be discussed. Waterstop and sealant for joints and cracks in concrete lining will also be discussed.

Geosynthetics

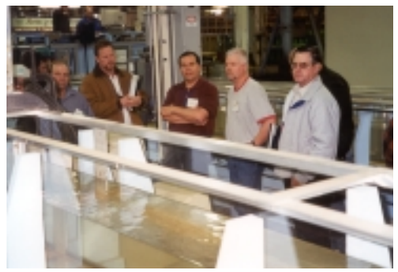
Geosynthetics have gained wide acceptance in a variety of civil engineering applications including drainage, filtration, soil reinforcement, and erosion control. Aspects of manufacture, design, specification, installation, and inspection will be discussed for a variety of geosynthetic materials including geotextiles, geogrids, geonets, geopipe, geocomposites, and erosion control blankets.

Design, Installation, and Maintenance of Pipe Systems

This session will deal with the economic aspects of justifying the enclosing of lateral systems in pipe, the benefits to be derived, and the development of new types of pipe. Discussions will include pipe installation procedures and techniques, operation and maintenance practices and problems, and various methods of repair.

Concrete Mixes and Materials

This session covers selection of proper cement and aggregates; the use of admixtures and additives; computation and mix proportions; the selection, testing, and use of premixed concrete in lieu of field mixing for construction; and repair work involving water system structures on an operating project.



Concrete Repair and Maintenance

Will include a review of Reclamation's requirements for concrete repair. Includes discussion and slide presentation on repair methods, repair materials, evaluating the cause and extent of damage, and case histories on Reclamation structures. Demonstrations of repair methods, including dry pack, epoxy-bonded concrete, epoxy-bonded epoxy mortar, and epoxy-pressure injection, are geared toward capabilities of an average operating organization.

Earth Construction Practices

This subject covers the general soils engineering procedures and will be geared to the equipment and personnel normally available to the average operating organization. Adequacy of foundations as to bearing capacity, stability, settlement, expansion, deterioration, and permeability will be included in this session; and soils properties as determined from classification and general description will be covered. Field investigations and exploration and treatment of foundations to overcome deficiencies will be discussed. Also included will be construction of roads, embankments, linings, blankets, and filters; placement of backfill; blending of materials from borrow pits; and methods of determining the quality of the work accomplished. General description of soil properties and methods for identifying and selecting soils will be discussed.